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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/220,055 12/23/98 JOHO

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EXAMINER

022850 MM41/0606
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PEREZ, G	
ART UNIT	PAPER NUMBER

2834
DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/220,055

Applicant(s)

JOHO ET AL.

Examiner

Guillermo Perez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko (JP01-126141) in view of Mulach et al. (U. S. Pat. No. 4,494,030).

Yoshihiko discloses a laminated stator body (11 in figure 2) for an electrical machine, which laminated stator body (11) is composed of a multiplicity of segmental laminations (14), each segmental lamination (14) being provided on a radial inside with slots (2) for accommodating conductors of a stator winding, each slot (2) extending from the radial inside to a root portion nearest to a radial outside of each segmental lamination (14), with the portion of each segmental lamination (14) remaining between the root portion and the radial outside defining a yoke height (h_j'), wherein each segmental lamination (14) is provided on the radial outside with periodically distributed notches (12) all of equal dimensions, the number and depth of the notches (12) being selected to increase mechanical strength by reducing vibration amplitudes during machine operation, the notches (12) and slots (2) of actually adjacent segmental laminations (14) in the laminated stator body (11) being arranged in alignment with one another to form said laminated stator body (11), said notches (12) being filled only with an atmosphere surrounding said laminated stator body (figure 2).

However, Yoshihiko does not disclose a notch depth that is much less than yoke height nor that the atmosphere is air.

Mulach et al. disclose a notch depth (44) that is much less than yoke height (figure 2) for the purpose of placing an insulating layer in the slot which isolates the currents flowing in the conductors (10).

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko and provide it with the notch depth disclosed by Mulach et al. for the purpose of placing an insulating layer in the slot which isolates the currents flowing in the conductors.

2. Claims 2, 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Mulach et al. as applied to claim 1 above, and further in view of D. D. Hershberger (U. S. Pat. No. 3, 421, 034).

Yoshihiko and Mulach et al. disclose a laminated stator body as described on item 1 above. However, neither Yoshihiko nor Mulach et al. disclose that the notches end in a relief opening at their radially inner end nor that the notches have a width of between 0.5 mm and 1 mm.

D. D. Hershberger discloses that the notches end in a relief opening (34) at their radially inner end; and that the notches have a width of between 0.5 mm and 1 mm (column 4, lines 66 to 71). D. D. Hershberger's invention has the purpose of providing a high reluctance flux barrier.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko and Mulach et al. and provide it with the notches and

relief openings of D. D. Hershberger for the purpose of providing a high reluctance flux barrier.

3. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Mulach et al. as applied to claim 1 above, and further in view of Sacher (DE 195 10 729 A1).

Yoshihiko and Mulach et al. disclose a laminated stator body as described on item 1 above. However, neither Yoshihiko nor Mulach et al. disclose that the number notches is twice as great as the number of slots. Neither Yoshihiko nor Mulach et al. disclose that that the number of notches is equal to the number of slots. Neither Yoshihiko nor Mulach et al. disclose that that the notch depth is in the order of magnitude of 20% of the yoke height. Neither Yoshihiko nor Mulach et al. disclose that that the notch depth is in the order of magnitude of 40% of the yoke height.

Sacher discloses that the number notches is twice as great as the number of slots (figure 6). Sacher discloses that the number of notches is equal to the number of slots (figure 5). Sacher's invention has the purpose of interrupting the direct connection between adjacent main poles.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko and Mulach et al. and provide it with the notches and slots arrangement of Sacher for the purpose of interrupting the direct connection between adjacent main poles.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the notch depth in the order of magnitude of 20% of the

yoke height; or in the order of magnitude of 40% of the yoke height, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

4. Claims 8, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Mulach et al., and further of D. D. Hershberger as applied to claim 2 above, and further in view of Sacher.

Yoshihiko, Mulach et al. and D. D. Hershberger disclose a laminated stator body as described on item 2 above. However, neither Yoshihiko, Mulach et al. nor D. D. Hershberger disclose that the number notches is twice as great as the number of slots. Neither Yoshihiko, Mulach et al. nor D. D. Hershberger disclose that the number of notches is equal to the number of slots.

Sacher discloses that the number notches is twice as great as the number of slots. Sacher discloses that the number of notches is equal to the number of slots. Sacher's invention has the purpose of interrupting the direct connection between adjacent main poles.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko, Mulach et al. and D. D. Hershberger, and provide it with the notches and slots arrangement of Sacher for the purpose of interrupting the direct connection between adjacent main poles.

5. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihiko in view of Mulach et al. and further of Sacher as applied to claims 3 and 5 above, and further in view of D. D. Hershberger.

Yoshihiko, Mulach et al. and Sacher disclose a laminated stator body as described on item 3 above. However, neither Yoshihiko, Mulach et al. nor Sacher disclose that the notches have a width of between 0.5 mm and 1 mm.

D. D. Hershberger discloses that the notches have a width of between 0.5 mm and 1 mm (column 4, lines 66 to 71). D. D. Hershberger's invention has the purpose of providing a high reluctance flux barrier.

It would have been obvious at the time the invention was made to modify the laminated stator body of Yoshihiko, Mulach et al. and Sacher, and provide it with the notches of D. D. Hershberger for the purpose of providing a high reluctance flux barrier.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
June 4, 2001


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SUPERVISORY PATENT EXAMINER
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